

PLASTIC BOTTLE WITH GRIP AND MOLDING THEREOF

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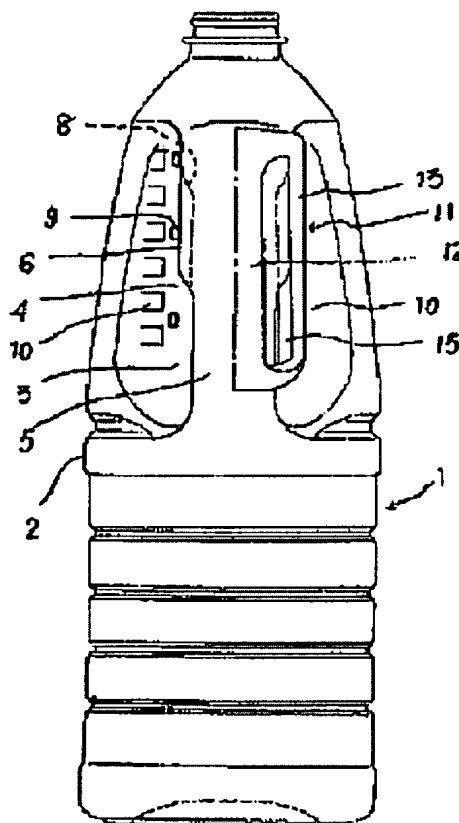
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Abstract of JP6156502

PURPOSE: To stabilize and strengthen attaching of a grip to a bottle body in order prevent the deforming and displacement of the attached part on the bottle body against the grip when loaded. **CONSTITUTION:**The attached part of a bottle body 1 is composed of fitting grooves and fitting holes 9. The attaching part of a grip 11 is constituted of Fitting beams 13 and fitting protrusions 15. The grip 11 is attached to the bottle body 1 by fitting of the fitting grooves to the fitting protrusions 15 and displacement of the attached part in the weakened direction due to the reflecting deformation between the attached spots of bottle body 1 and the grip 11 is prevented by fitting of the fitting protrusions to the fitting holes 9. A stable fitting of the bottle 1 to the grip 11 can be achieved and retained.



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PATENT ABSTRACTS OF JAPAN

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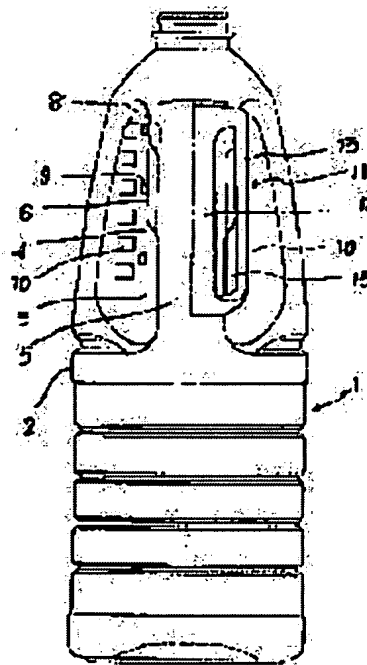
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(54) PLASTIC BOTTLE WITH GRIP AND MOLDING THEREOF

(57)Abstract:

PURPOSE: To stabilize and strengthen attaching of a grip to a bottle body in order prevent the deforming and displacement of the attached part on the bottle body against the grip when loaded.

CONSTITUTION: The attached part of a bottle body 1 is composed of fitting grooves and fitting holes 9. The attaching part of a grip 11 is constituted of Fitting beams 13 and fitting protrusions 15. The grip 11 is attached to the bottle body 1 by fitting of the fitting grooves to the fitting protrusions 15 and displacement of the attached part in the weakened direction due to the reflecting deformation between the attached spots of bottle body 1 and the grip 11 is prevented by fitting of the fitting protrusions to the fitting holes 9. A stable fitting of the bottle 1 to the grip 11 can be achieved and retained.



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CLAIMS

[Claim(s)]

[Claim 1] Drum section (2) Crevice ***** (ed) by the posterior part (3) Crevice base (4) Vertical projected part (5) It projects and ** and is this vertical projected part (5). It is longitudinal-stria-like the piece of bulge (6) to a both-sides side. It protrudes. this piece of bulge (6) Said crevice base (4) between -- engagement slot (7) forming -- said vertical projected part (5) Said crevice base (4) of close attendants a part -- MEKURA hole-like fitting hole (9) Formed bottle body (1) by which biaxial extension blow molding was carried out Said crevice base (4) The pair which has the contacting apical surface (14) and has been arranged in parallel grapples, and a handle plate (12) is ***** (ed) between the vertical edges of the piece of a beam (13). the opposed face of said piece of a beam with both groups (13) -- said engagement slot (7) the engaged engagement protruding piece (15) -- protruding -- said apical surface (14) -- said fitting hole (9) the handle (11) which protruded the fitting protruding piece (16) which fits in -- since -- bottle made of synthetic resin with a handle which changes.

[Claim 2] Fitting hole (9) And bottle made of synthetic resin with a handle according to claim 1 which prepared two or more fitting protruding pieces (16).

[Claim 3] Crevice base (4) Bottle made of synthetic resin with a handle according to claim 1 or 2 which protruded the support projected part (10) which contacts the lateral surface of the piece of a beam with both groups (13) on a knob (11) which grappled.

[Claim 4] The bottle made of synthetic resin with a handle according to claim 3 which made the support projected part (10) the shape of a vertical protruding line.

[Claim 5] The bottle made of synthetic resin with a handle according to claim 3 which opened spacing, arranged two or more protruding pieces perpendicularly, and constituted the support projected part (10).

[Claim 6] Drum section (2) Crevice ***** (ed) by the posterior part (3) Crevice base (4) Vertical projected part (5) It projects and ** and is this vertical projected part (5). It is longitudinal-stria-like the piece of bulge (6) to a both-sides side. It protrudes. This piece of bulge (6) Said crevice base (4) It is an engagement slot (7) in between. It forms. Said vertical projected part (5) Said crevice base of close attendants (4) It is a MEKURA hole-like fitting hole (9) to a part. To the formed bottle body (1) Said crevice base (4) The pair which has the contacting apical surface (14) and has been arranged in parallel grapples, and a handle plate (12) is formed between the vertical edges of the piece of a beam (13) at one. It is said engagement slot (7) to the opposed face of said piece of a beam with both groups (13). The engaged engagement protruding piece (15) is protruded. It is said fitting hole (9) to said apical surface (14). It is the shaping approach of the bottle with a handle which attached the handle (11) which protruded the fitting protruding piece (16) which fits in to immobilization. Said piece of a beam with a group (13), It is said bottle body (1), using said apical surface (14), and said engagement protruding piece (15) and said fitting protruding piece (16) as insertion material. By biaxial extension blow molding, it is said engagement slot (7). And fitting hole (9) The shaping approach of the bottle made of synthetic resin with a handle to fabricate.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the bottle made of synthetic resin with a handle which attached firmly the large-sized bottle made of synthetic resin with a handle by which biaxial extension blow molding was carried out, especially the handle fabricated by another object and a bottle body, and its shaping approach.

[0002]

[Description of the Prior Art] There is a bottle shown in JP,63-147429,U as a typical conventional technique of the large-sized bottle made of synthetic resin with a handle constituted by attaching the bottle body and handle which were fabricated by another object.

[0003] The bottle of this conventional technique forms in the regio oralis of the drum section of a bottle body the crevice which makes an arc up and down. Arrange a fitting projected part lengthwise in this center of a crevice at an arc, and blockade both ends in the right-and-left both-sides side of this fitting projected part, and a long slot is arranged lengthwise to an arc. By constituting the frame as a handle which constructed the handle between the vertical edges of the front frame board section which makes an arc, attaching an engagement protruding line to the right-and-left both sides of the front frame board section of this frame, and pushing a frame compulsorily from crevice back Compulsory riding **** of the engagement protruding line to a long slot formation wall is attained, and to the bottle body, the frame as a handle is attached to balking impossible, and it is constituted.

[0004]

[Problem(s) to be Solved by the Invention] Although the above-mentioned conventional technique can attain with [with a firm handle / to a bottle body] a group, in order that attachment of a handle to a bottle body might take the powerful activity force to it, it needed the facility of dedication for attachment of a handle to a bottle body, and it had the problem that a manufacture unit price became high for this reason.

[0005] Moreover, when that wall thickness was thin, and the powerful activity force acted in order to attach a handle to a bottle body for this reason since it was a biaxial extension blow molding article, the bottle body had a possibility that unjust deformation of buckling distortion etc. might occur in a bottle body according to this applied force, and had the problem that a defective may be produced at the time of anchoring on a knob.

[0006] And since it was a biaxial extension blow molding article, that wall thickness of the bottle body was thin, for this reason, it was easy to generate the elastic bending deformation by the load into a part with an engagement group with a handle, the force with an engagement group of a bottle body and a handle weakened into it according to this bending deformation, and the problem referred to as separating with [to a bottle body on a knob] a group was in it.

[0007] Furthermore, since the handle to a bottle body grapples, maintenance of a condition is attained by only fitting of the engagement protruding line to a long slot, fitting of the engagement protruding line to this long slot overcomes a long slot formation wall compulsorily and an engagement protruding line is attained, there was a problem that the handling of the bottle of the handle to a bottle body which it is easy to be generated with backlash to grapple, and has a handle for this reason may become unstable.

[0008] Furthermore, a bottle body and a handle are fabricated separately, and to a bottle body being

a biaxial extension blow molding article, since a handle is an injection-molded product A big difference arises in the shaping dimensional accuracy of a mutual engagement part, and for this reason, with [of a bottle body and a handle] an engagement group, while it is difficult for there to be nothing with backlash Since protrusion extent of the engagement part by the side of the bottle body which is a biaxial extension blow molding article could not be made sharp, there was a problem which says that it is not not necessarily stabilized with [to a bottle body / of a handle] an engagement group, and it cannot necessarily attain powerfully.

[0009] then, bending deformation of the part with an engagement group by the side of the bottle body to the handle at the time of being invented that this invention should cancel the trouble in the above-mentioned conventional technique, and a load acting -- it makes to abolish generating of a variation rate into a technical technical problem, it has it, and aims at being stabilized and considering with [to a bottle body / of a handle] a group as a firm thing.

[0010]

[Means for Solving the Problem] The means of this invention which solves the above-mentioned technical technical problem projects and ** a vertical projected part on the crevice base of the crevice ***** (ed) by the posterior part of a drum section, and longitudinal-stria-like the piece of bulge is protruded on the both-sides side of this vertical projected part. It has the bottle body which formed the engagement slot between this piece of bulge, and a crevice base, and formed the MEKURA hole-like fitting hole in a part for vertical projected part close attendants' crevice bottom surface part and by which biaxial extension blow molding was carried out, The pair which has the apical surface which contacts the crevice base of a bottle body, and has been arranged in parallel grapples, and a handle plate is ***** (ed) between the vertical edges of the piece of a beam. The engagement protruding piece which engages with the opposed face of the piece of a beam with both groups in the engagement slot on the bottle body is ***** (ed), and it is in having the handle which protruded the fitting protruding piece which fits into an apical surface at the fitting hole of a bottle body.

[0011] It is desirable to prepare two or more fitting holes of a bottle body and fitting protruding pieces on a knob.

[0012] It is good, and protruding the support projected part which contacts the lateral surface of the piece of a beam with both groups on a knob which clinched the crevice base of a bottle body may open spacing, it may arrange the shape of a vertical protruding line, and two or more protruding pieces perpendicularly, and may constitute this support projected part.

[0013] The means of this invention approach which solves the above-mentioned technical technical problem Project and ** a vertical projected part on the crevice base of the crevice ***** (ed) by the posterior part of a drum section, and longitudinal-stria-like the piece of bulge is protruded on the both-sides side of this vertical projected part. To the bottle body which formed the engagement slot between this piece of bulge, and a crevice base, and formed the MEKURA hole-like fitting hole in a part for vertical projected part close attendants' crevice bottom surface part The pair which has the apical surface which contacts the crevice base of a bottle body, and has been arranged in parallel grapples, and a handle plate is ***** (ed) between the vertical edges of the piece of a beam. It is the shaping approach of the bottle with a handle which attached to immobilization the handle which protruded on the opposed face of the piece of a beam with both groups the engagement protruding piece which engages with the engagement slot on the bottle body, and protruded the fitting protruding piece which fits into an apical surface at the fitting hole of a bottle body, A handle grapples and it is in fabricating the engagement slot and fitting hole of a bottle body by the biaxial extension blow molding of a bottle body by making into insertion material the piece of a beam, and this fitting protruding piece that grappled and protruded on the apical surface of the piece of a beam, this engagement protruding piece that grappled and protruded on the piece of a beam, and an apical surface.

[0014]

[Function] the handle to a bottle body -- grappling -- while making it engage with an engagement slot in the condition that the pair on a knob grappled the vertical projected part prepared in the crevice base of the crevice of a bottle body, and the piece of a beam made the piece of bulge of a bottle body stop the engagement protruding piece and holding from both sides, achievement

maintenance is carried out by carrying out fitting of the fitting protruding piece on a knob to the fitting hole of a bottle body.

[0015] this handle cannot be broken away [of the handle to a bottle body] in the condition of having clinched the bottle body -- grappling -- The engagement to the engagement slot on the bottle body of an engagement protruding piece on a knob, i.e., the stop to the piece of bulge of a bottle body, attains. The engagement to the engagement slot of this engagement protruding piece was maintained by fitting to the fitting hole of a bottle body of a fitting protruding piece on a knob, and an engagement protruding piece is in the condition which engaged with the engagement slot, and, as for fitting of this fitting protruding piece and a fitting hole, the handle has prevented shifting and displacing to a bottle body.

[0016] namely, on the bending deformation by the side of the bottle body which makes it weaken with [to a bottle body / of a handle] an engagement group when the fitting protruding piece by the side of a handle fits into the fitting hole by the side of a bottle body, and a concrete target By preventing generating of bending deformation in the direction which narrows the breadth of a vertical projected part at the base of a crevice in which the vertical projected part was prepared On bending deformation of the piece of a beam with both groups on a knob which you maintain [piece] stably engagement into an engagement protruding piece and an engagement slot, and makes it weaken with [to a bottle body / of a handle] an engagement group similarly, and a concrete target By preventing generating of bending deformation in the direction where the piece of a beam with both groups extends the mutual spacing, engagement into an engagement protruding piece and an engagement slot is maintained stably.

[0017] The piece of a beam with both groups on a knob, the piece of bulge which is a part with an engagement group with the handle of a bottle body by [this] grappling and carrying out biaxial extension blow molding of the bottle body by making the apical surface of the piece of a beam, an engagement protruding piece, and a fitting protruding piece into insertion material, an engagement slot, and a fitting hole will clinch the piece of a beam with both groups, an apical surface, an engagement protruding piece, and a fitting protruding piece on a knob without an abbreviation clearance, and will be fabricated.

[0018] the handle of the part with an engagement group of this bottle body is received -- grappling -- since it is attained by extension shaping of the part with an engagement group of a bottle body, although local extension deformation arises into the part with an engagement group of a bottle body, impossible ** elastic deformation does not arise and, for this reason, mechanical unjust deformation of buckling distortion etc. does not occur in the bottle body which is a biaxial extension blow molding article at the time of attachment to a bottle body on a knob

[0019] Moreover, the part with an engagement group of a bottle body becomes possible [setting protrusion extent of the engagement part as extent which can demonstrate the engagement force powerful enough], without the handle after shaping grappling and taking into consideration the mold release from biaxial extension blow molding metal mold equipment with shaping accompanying the biaxial extension blow molding of a bottle body, since it is attained with [to a handle] a group.

[0020]

[Example] Hereafter, the example of this invention is explained, referring to a drawing. The bottle body 1 which is a large-sized (2.5-4.0l.) bottle made of synthetic resin by which biaxial extension blow molding was carried out The crevice 3 which curved and caved in along the vertical direction at the posterior part of the Johan part of that drum section 2 is formed, and in the center at the base 4 of a crevice of this crevice 3, over all the height range of a crevice 3, it protrudes in the shape of bulge, and consists of height which carried out abbreviation regularity of the vertical projected part 5 of the shape of a comparatively broad protruding line along the vertical direction.

[0021] The vertical protruding line-like piece 6 of bulge protrudes on both-sides side protrusion one end in the upper half of [abbreviation] the vertical projected part 5. By the protrusion of this piece 6 of bulge Between the piece 6 of bulge, and the crevice base 4, the engagement slot 7 which ran and used upper limit as the edge 8 is formed. Into vertical projected part 5 close attendants' crevice base 4 part The fitting hole 9 of the shape of a MEKURA hole of plurality (at an illustration example, they are every three pieces [a total of six] to right and left) is formed. Furthermore, the support projected part 10 which contacts the lateral surface of the piece 13 of a beam with both groups of a

handle 11 which clinched the close attendants outside the fitting hole 9 at the base 4 of a crevice is protruded, it supports with the engagement slot 7 and the fitting hole 9 containing this piece 6 of bulge, and the projected part 10 constitutes the part with an engagement group of a bottle body 1.

[0022] The support projected part 10 just contacts the lateral surface of the piece 13 of a beam with both groups of a handle 11 which clinched the bottle body 1, and the structure may be what (refer to the left half of drawing 2) ended and was able to be perpendicularly located [protruding pieces / what / carried out the bulge protrusion (refer to drawing 1) to the shape of a vertical protruding line continuously simply / two or more] in a line in spacing.

[0023] the handle 11 (refer to drawing 4, drawing 5, and drawing 6) which is the injection-molded product of comparatively hard synthetic resin -- the crevice base 4 and abbreviation -- the pair arranged in parallel grapples, and between the vertical edges of the piece 13 of a beam, the plate-like handle plate 12 is ***** (ed) in the shape of construction, it is constituted [it curves along with the same curve and] through a connecting plate 17, and many crevices of a sake without meat are fabricated by the handle plate 12.

[0024] Grapple and the apical surface 14 of the piece 13 of a beam is carrying out the same curve side configuration as the crevice base 4. The fitting protruding piece 16 which fits into the fitting hole 9 of a bottle body 1 strongly is protruded on this apical surface 14. It applies near upper limit from the lower limit by the side of the tip of the side face where the piece 13 of a beam with both groups countered, the protruding line-like engagement protruding piece 15 is protruded, and the piece 13 of a beam with both groups which has this apical surface 14, the engagement protruding piece 15, and the fitting protruding piece 16 constitutes the part with an engagement group by the side of a handle 11.

[0025] Attachment to the bottle body 1 of this handle 11 is attained by carrying out biaxial extension blow molding of the bottle body 1 by making the part with an engagement group of a handle 11 into insertion material. As shown in drawing 3, the part with an engagement group of a bottle body 1 is fabricated with the gestalt which wraps in the part with an engagement group of a handle 11 by the biaxial extension blow molding of the bottle body 1 which made insertion material the part with an engagement group of this handle 11, and will be in the condition of having been engaged with big engagement extent [be / and / no abbreviation clearance], by it.

[0026] So that clearly from drawing 3 the support projected part 10 of a bottle body 1 In the condition of having made it engaging with the engagement slot 7 and of grappling and holding the piece 13 of a beam between the vertical projected parts 5, the engagement protruding piece 15 since it grapples and the lateral surface of the piece 13 of a beam is contacted -- the deformation to the outside of the piece 13 of a beam with both groups -- weakening with the engagement group of the part with an engagement group of a handle 11 to the part with an engagement group of a bottle body 1 by fitting to the fitting hole 9 of the fitting protruding piece 16 since a variation rate is prevented -- a prevention operation will be reinforced powerfully.

[0027] Moreover, since the upper limit of the engagement protruding piece 15 of a handle 11 runs against this the end edge 8 and prevents gap generating to the upper part where the handle 11 to a bottle body 1 grapples by running against the engagement slot 7 of a bottle body 1, and forming an edge 8 weakening with the engagement group of the part with an engagement group of a handle 11 to the part with an engagement group of a bottle body 1 by fitting to the fitting hole 9 of the fitting protruding piece 16 -- a prevention operation will be reinforced powerfully.

[0028]

[Effect of the Invention] Since this invention has the above-mentioned composition, it does so the effectiveness taken below. By fitting [as opposed to / while the engagement of an engagement protruding piece on a knob to the engagement slot on the bottle body attains with / to a bottle body / of a handle / an engagement group / the fitting hole of a bottle body] of a fitting protruding piece on a knob, since engagement to an engagement slot and an engagement protruding piece is maintained stably, the handling of the bottle which should be stabilized, has with [to a bottle body / of a handle] a group, and has a handle can attain safely extremely.

[0029] The variation rate by the bending deformation to the direction which makes it weaken with [to the part with an engagement group of the handle of the part with an engagement group of a bottle body] an engagement group by fitting to the fitting hole of the bottle body of a fitting protruding

piece on a knob, And the variation rate by the bending deformation to the direction which makes it weaken with [of the piece of a beam with both groups on a knob] an engagement group It prevents powerfully and certainly, and by this, it maintains with [to a bottle body / of a handle / powerful] an engagement group stably, has it, and maintains with [to a bottle body / of a handle / powerful] an engagement group firmly and certainly over a long period of time.

[0030] It only grapples, and since a fitting protruding piece on a knob is only the configuration which protruded the protruding piece on the apical surface of the piece of a beam, the structure is very easy and it is [it has it and] easy to carry out.

[0031] Since it is attained with [to a bottle body / of a handle] a group by the biaxial extension blow molding and coincidence of a bottle body when a part with an engagement group on a knob is made into insertion material, for engagement attachment by the bottle body and handle which are another object moldings, there is no possibility that **-permanent deformation, such as buckling distortion, and unjust deformation may occur in the part with an engagement group of a bottle body, it has in it, and good engagement attachment can be attained by the insurance of the handle to a bottle body.

[0032] It can prevent that the biaxial extension blow molding of the bottle body as insertion material can carry out a handle by performing slight processing to the biaxial extension blow molding equipment for the existing bottle body shaping, have, and cost increases sharply for operation.

[0033] The part with an engagement group of a bottle body could make the part with an engagement group of a bottle body the structure where the engagement force was strong, had it, with [to a bottle body / of a handle] the engagement group, should be powerful and should be stabilized while it could attach the part with an engagement group of a bottle body, and the part with an engagement group on a knob without the abbreviation clearance, since the part with an engagement group on a knob was fabricated as a part of die side.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The whole bottle side elevation showing one example of this invention which half-traveled through the handle.

[Drawing 2] The whole bottle rear view which excised the left half of the example shown in drawing 1 on a knob.

[Drawing 3] The expansion flat section which carried out the cutting view along with the A-A line among drawing 1.

[Drawing 4] The whole handle rear view of the example shown in drawing 1.

[Drawing 5] The whole handle side elevation shown in drawing 4.

[Drawing 6] The whole handle vertical section side elevation shown in drawing 4.

[Description of Notations]

1 ; Bottle Body

2 ; Drum Section

3 ; Crevice

4 ; Crevice Base

5 ; Vertical Projected Part

6 ; Piece of Bulge

7 ; Engagement Slot

8 ; End Edge

9 ; Fitting Hole

10; Support projected part

11; Handle

12; Handle plate

13; It grapples and is a piece of a beam.

14; Apical surface

15; Engagement protruding piece

16; Fitting protruding piece

17; Connecting plate

[Translation done.]

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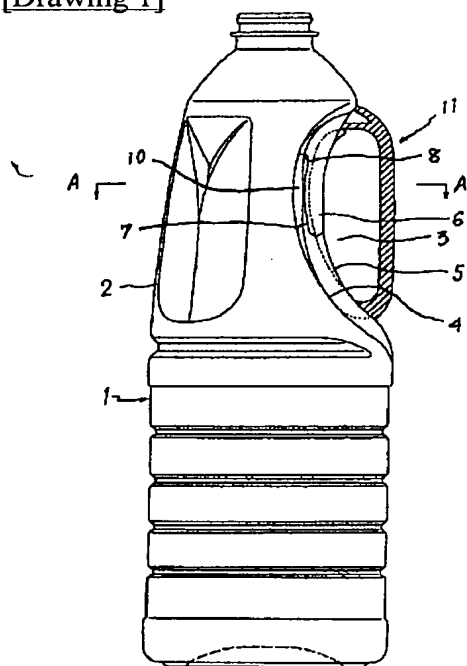
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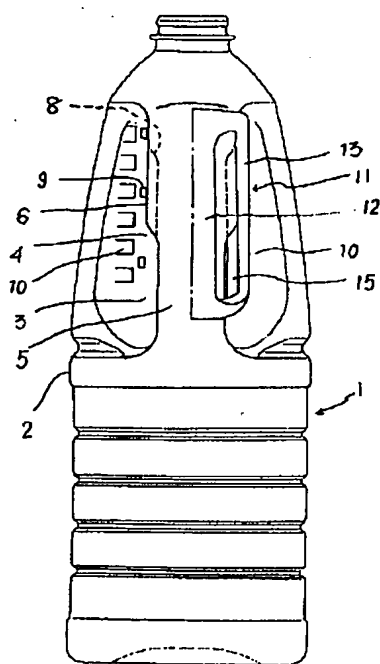
DRAWINGS

[Drawing 1]



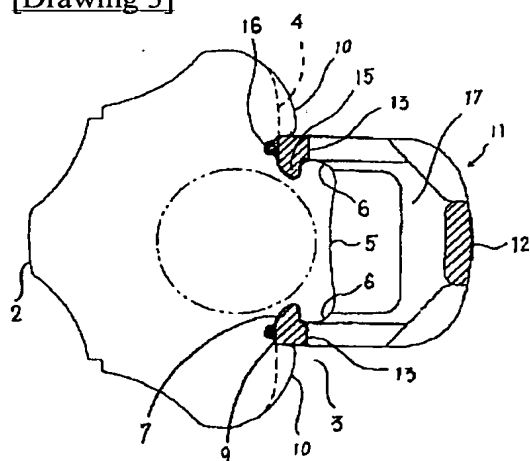
1 ; 瓶本体 2 ; 胴部 3 ; 凹部 4 ; 凹部底面
 5 ; 縦突起部 6 ; 膨出片 7 ; 係合溝 8 ; 突き当たり端
 9 ; 嵌合穴部 10 ; 支え突起部 11 ; 把手

[Drawing 2]

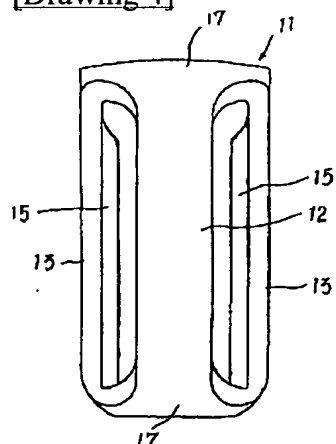


12 ; 把手板 13 ; 組付き聚片 14 ; 先端面
15 ; 係合突片 16 ; 嵌合突片 17 ; 連結板

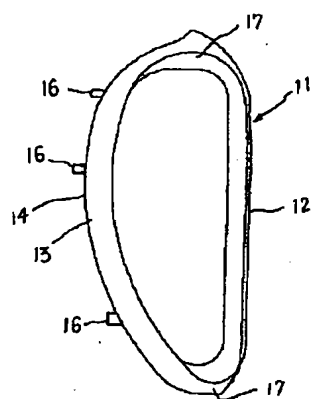
[Drawing 3]



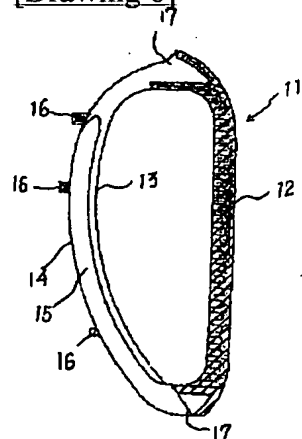
[Drawing 4]



[Drawing 5]



[Drawing 6]



[Translation done.]

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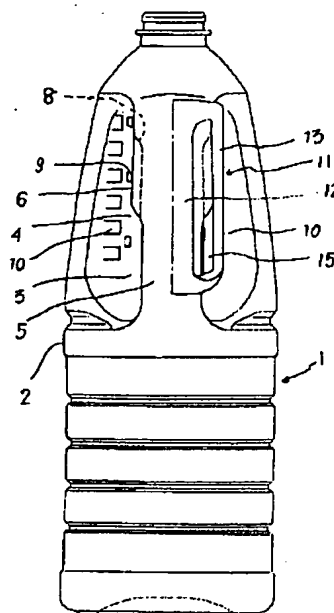
(74) 代理人 弁理士 渡辺 一豊

(54) 【発明の名称】 把手付き合成樹脂製壺体とその成形方法

(57) 【要約】

【目的】 荷重が作用した際の把手に対する壺本体側の係合組付き部分の撓み変形変位の発生を無くすことを技術的課題とし、もって壺本体に対する把手の組付きを、安定して強固なものとするにある。

【構成】 壺本体1の係合組付き部分を係合溝7と嵌合穴部9とで構成し、把手11の係合組付き部分を、組付き梁片13と係合突片15と嵌合突片16とで構成し、係合溝7と係合突片15との係合により壺本体1に対する把手11の係合組付きを達成すると共に、嵌合突片16と嵌合穴部9との嵌合により、壺本体1と把手11の係合組付き部分間の撓み変形による、係合弱化方向の変位発生を阻止し、壺本体1と把手11との安定した係合組付きを達成維持する。



12: 把手板 13: 組付き梁片 14: 先端面
15: 係合突片 16: 嵌合突片 17: 連結板

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【特許請求の範囲】

【請求項1】 胴部(2) 後部に陥没設された凹部(3) の凹部底面(4) に縦突部(5) を突出設し、該縦突部(5) の両側面に縦条状の膨出片(6) を突設して、該膨出片(6) と前記凹部底面(4) との間に係合溝(7) を形成し、前記縦突部(5) 側近の前記凹部底面(4) 部分にメクラ穴状の嵌合穴部(9) を形成した2軸延伸ブロー成形された壺本体(1) と、前記凹部底面(4) に当接する先端面(14) を有して平行に配置された一対の組付き梁片(13) の上下端間に把手板(12) を一体設し、前記両組付き梁片(13) の対向面に前記係合溝(7) に係合する係合突片(15) を突設し、前記先端面(14) に前記嵌合穴部(9) に嵌合する嵌合突片(16) を突設した把手(11) と、から成る把手付き合成樹脂製壺体。

【請求項2】 嵌合穴部(9) および嵌合突片(16) を複数個設けた請求項1に記載の把手付き合成樹脂製壺体。

【請求項3】 凹部底面(4) に、組付いた把手(11) の両組付き梁片(13) の外側面に当接する支え突部(10) を突設した請求項1または2に記載の把手付き合成樹脂製壺体。

【請求項4】 支え突部(10) を縦突条状とした請求項3に記載の把手付き合成樹脂製壺体。

【請求項5】 支え突部(10) を、複数の突片を間隔を開けて縦に並べて構成した請求項3に記載の把手付き合成樹脂製壺体。

【請求項6】 胴部(2) 後部に陥没設された凹部(3) の凹部底面(4) に縦突部(5) を突出設し、該縦突部(5) の両側面に縦条状の膨出片(6) を突設して、該膨出片(6) と前記凹部底面(4) との間に係合溝(7) を形成し、前記縦突部(5) の側近の前記凹部底面(4) 部分にメクラ穴状の嵌合穴部(9) を形成した壺本体(1) に、前記凹部底面(4) に当接する先端面(14) を有して平行に配置された一対の組付き梁片(13) の上下端間に把手板(12) を一体に設け、前記両組付き梁片(13) の対向面に前記係合溝(7) に係合する係合突片(15) を突設し、前記先端面(14) に前記嵌合穴部(9) に嵌合する嵌合突片(16) を突設した把手(11) を、不動に組付けた把手付き壺体の成形方法であって、前記組付き梁片(13) と、前記先端面(14) と、前記係合突片(15) と、そして前記嵌合突片(16) とをインサート材として、前記壺本体(1) の2軸延伸ブロー成形により、前記係合溝(7) および嵌合穴(9) を成形する把手付き合成樹脂製壺体の成形方法。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、2軸延伸ブロー成形された大型な把手付き合成樹脂製壺体、特に別体に成形される把手と壺本体とを強固に組付けた把手付き合成樹脂製壺体とその成形方法に関するものである。

【0002】

【従来の技術】 別体に成形された壺本体と把手とを組付

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けて構成される大型な把手付き合成樹脂製壺体の代表的な従来技術として、実開昭63-147429号公報に示された壺体がある。

【0003】 この従来技術の壺体は、壺本体の胴部の口部に、上下に弧状をなす凹部を形成し、この凹部中央に嵌合突部を弧状に縦設し、この嵌合突部の左右両側面に両端を閉塞して弧状に長溝を縦設し、弧状をなす前方枰板部の上下端部間に把手を架設した把手としての枰体を構成し、この枰体の前方枰板部の左右両側に係合突条を付設し、枰体を凹部後方から強制的に押し付けることにより、長溝形成壁部に対する係合突条の強制的な乗り越えを達成して、壺本体に対して把手としての枰体を離脱不能に組付けて構成されている。

【0004】

【発明が解決しようとする課題】 上記した従来技術は、壺本体に対する把手の強固な組付きを達成できるのであるが、壺本体に対する把手の組付けに強力な作業力を要するため、壺本体に対する把手の組付けに専用の設備を必要とし、このため製造単価が高くなるという問題があった。

【0005】 また、壺本体は、2軸延伸ブロー成形品であるので、その壁厚が薄く、このため壺本体に把手を組付けるために強力な作業力が作用すると、この作用力により壺本体に座屈変形等の不正変形が発生する恐れがあり、把手の取付け時に不良品を生じる場合があるという問題があった。

【0006】 そして、壺本体は、2軸延伸ブロー成形品であるので、その壁厚が薄く、このため把手との係合組付き部分に、荷重による弾性的な撓み変形が発生し易く、この撓み変形により壺本体と把手との係合組付き力が弱化して、把手の壺本体に対する組付きが外れると云う問題があった。

【0007】 さらに、壺本体に対する把手の組付き状態の保持は、長溝に対する係合突条の嵌合だけにより達成され、この長溝に対する係合突条の嵌合は、係合突条が長溝形成壁部を強制的に乗り越えて達成されるものであるので、壺本体に対する把手の組付きにガタ付きが生じ易く、このため把手を持つての壺体の取扱いが不安定となる場合があるという問題があった。

【0008】 またさらに、壺本体と把手とは別個に成形されるものであり、かつ壺本体が2軸延伸ブロー成形品であるのに対して、把手は射出成形品であるので、相互の係合部分の成形寸法精度に大きな差が生じ、このため壺本体と把手との係合組付きをガタ付きのないものとするのが難しいと共に、2軸延伸ブロー成形品である壺本体側の係合部分の突出程度を鋭くすることができないので、壺本体に対する把手の係合組付きが、必ずしも安定して強力に達成できるとは限らないと云う問題があった。

【0009】 そこで、本発明は、上記した従来技術にお

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ける問題点を解消すべく発明されたもので、荷重が作用した際の把手に対する壺本体側の係合組付き部分の撓み変形変位の発生を無くすことを技術的課題とし、もって壺本体に対する把手の組付きを、安定して強固なものとするを目的とする。

【0010】

【課題を解決するための手段】上記技術的課題を解決する本発明の手段は、胴部の後部に陥没設された凹部の凹部底面に縦突部を突出設し、この縦突部の両側面に縦条状の膨出片を突設して、この膨出片と凹部底面との間に係合溝を形成し、縦突部側近の凹部底面部分にメクラ穴状の嵌合穴部を形成した2軸延伸ブロー成形された壺本体を有すること、壺本体の凹部底面に当接する先端面を有して平行に配置された一对の組付き梁片の上下端間に把手板を一体設し、両組付き梁片の対向面に壺本体の係合溝に係合する係合突片を突条設し、先端面に壺本体の嵌合穴部に嵌合する嵌合突片を突設した把手を有すること、にある。

【0011】壺本体の嵌合穴部および把手の嵌合突片を複数個設けるのが望ましい。

【0012】壺本体の凹部底面に、組付いた把手の両組付き梁片の外側面に当接する支え突部を突設するのが良く、この支え突部は、縦突条状、もしくは複数の突片を間隔を開けて縦に並べて構成しても良い。

【0013】上記技術的課題を解決する本発明方法の手段は、胴部の後部に陥没設された凹部の凹部底面に縦突部を突出設し、この縦突部の両側面に縦条状の膨出片を突設して、この膨出片と凹部底面との間に係合溝を形成し、縦突部側近の凹部底面部分にメクラ穴状の嵌合穴部を形成した壺本体に、壺本体の凹部底面に当接する先端面を有して平行に配置された一对の組付き梁片の上下端間に把手板を一体設し、両組付き梁片の対向面に壺本体の係合溝に係合する係合突片を突設し、先端面に壺本体の嵌合穴部に嵌合する嵌合突片を突設した把手を、不動に組付けた把手付き壺体の成形方法であること、把手の組付き梁片と、この組付き梁片の先端面と、この組付き梁片に突設された係合突片と、そして先端面に突設された嵌合突片とをインサート材として、壺本体の2軸延伸ブロー成形により、壺本体の係合溝および嵌合穴を成形すること、にある。

【0014】

【作用】壺本体に対する把手の組付きは、壺本体の凹部の凹部底面に設けられた縦突部を、把手の一对の組付き梁片が、その係合突片を、壺本体の膨出片に係止させた状態で係合溝に係合させて、両側から抱きかかえると共に、壺本体の嵌合穴部に把手の嵌合突片を嵌合させることにより達成維持される。

【0015】この把手が壺本体に組付いた状態において、壺本体に対する把手の離脱不能な組付きは、把手の係合突片の、壺本体の係合溝に対する係合、すなわち壺

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本体の膨出片に対する係止により達成し、この係合突片の係合溝に対する係合を、把手の嵌合突片の、壺本体の嵌合穴部に対する嵌合により維持し、またこの嵌合突片と嵌合穴部との嵌合は、係合突片が係合溝に係合した状態で、壺本体に対して把手がズレ変位するのを防止している。

【0016】すなわち、把手側の嵌合突片が壺本体側の嵌合穴部に嵌合することにより、壺本体に対する把手の係合組付きを弱化させる壺本体側の撓み変形、具体的には、縦突部を設けた凹部底面の、縦突部の横幅を狭める方向への撓み変形の発生を阻止することにより、係合突片と係合溝との係合を安定的に維持し、また同じく、壺本体に対する把手の係合組付きを弱化させる把手の両組付き梁片の撓み変形、具体的には、両組付き梁片がその相互間隔を拡げる方向への撓み変形の発生を阻止することにより、係合突片と係合溝との係合を安定的に維持する。

【0017】把手の両組付き梁片と、この組付き梁片の先端面と、係合突片と、そして嵌合突片とをインサート材として壺本体を2軸延伸ブロー成形することにより、壺本体の把手との係合組付き部分である膨出片、係合溝、そして嵌合穴部が、把手の両組付き梁片、先端面、係合突片、そして嵌合突片に、略隙間なく組付いて成形されることになる。

【0018】この壺本体の係合組付き部分の把手に対する組付きは、壺本体の係合組付き部分の延伸成形により達成されるので、壺本体の係合組付き部分に局所的な延伸変形が生じるものの、剛的な無理な弾性変形の生じることがなく、このため把手の壺本体に対する組付け時に、2軸延伸ブロー成形品である壺本体に、座屈変形等の機械的な不正変形の発生することがない。

【0019】また、壺本体の係合組付き部分は、壺本体の2軸延伸ブロー成形に伴う成形により、把手に対する組付きが達成されるので、成形後における把手の組付き、および2軸延伸ブロー成形金型装置からの離型を考慮することなく、その係合部分の突出程度を、十分に強力な係合力を発揮できる程度に設定することが可能となる。

【0020】

【実施例】以下、本発明の実施例を、図面を参照しながら説明する。大型(2.5~4.0リットル)な2軸延伸ブロー成形された合成樹脂製壺体である壺本体1は、その胴部2の上半部分の後部に、上下方向に沿って湾曲して陥没した凹部3を形成し、この凹部3の凹部底面4の中央に、上下方向に沿って比較的幅広な突条状の縦突部5を略一定した高さで、凹部3の全高さ範囲にわたって膨出状に突設して構成されている。

【0021】縦突部5の略上半分の両側面突出端側には、縦突条状の膨出片6が突設されており、この膨出片6の突設により、膨出片6と凹部底面4との間に、上端

を突き当たり端8とした係合溝7を形成し、また縦突部5側近の凹部底面4部分には、複数(図示実施例では、左右に3個ずつの計6個)のメクラ穴状の嵌合穴部9を形成し、さらに凹部底面4の嵌合穴部9よりも外側の側近に、組付いた把手11の両組付き梁片13の外側面に当接する支え突部10を突設し、この膨出片6を含んだ係合溝7と嵌合穴部9と支え突部10とにより、壺本体1の係合組付き部分を構成している。

【0022】支え突部10は、壺本体1に組付いた把手11の両組付き梁片13の外側面に当接すれば良いものであって、その構造は、単純に連続して縦突条状に膨出突出(図1参照)したものでも、複数の突片を間隔をあけて縦にならべた(図2の左半分参照)ものであっても良い。

【0023】比較的硬質な合成樹脂の射出成形品である把手11(図4、図5、図6参照)は、凹部底面4と略同じ湾曲に沿って湾曲し、平行に配置された一对の組付き梁片13の上下端間に、連結板17を介して平板状の把手板12を架設状に一体設して構成され、把手板12には、肉抜きのための多数の凹部が成形されている。

【0024】組付き梁片13の先端面14は、凹部底面4と同じ湾曲面形状をしており、この先端面14に壺本体1の嵌合穴部9にきつく嵌合する嵌合突片16を突設し、両組付き梁片13の対向した側面の先端側の下端から上端付近にかけて、突条状の係合突片15を突設し、この先端面14、係合突片15そして嵌合突片16を有する両組付き梁片13により把手11側の係合組付き部分を構成している。

【0025】この把手11の壺本体1に対する組付けは、把手11の係合組付き部分をインサート材として、壺本体1を2軸延伸ブロー成形することにより達成される。この把手11の係合組付き部分をインサート材とした壺本体1の2軸延伸ブロー成形により、図3に示すように、壺本体1の係合組付き部分は、把手11の係合組付き部分を包み込む形態で成形され、略隙間なくかつ大きな係合程度で係合した状態となる。

【0026】図3から明らかなように、壺本体1の支え突部10は、係合突片15を係合溝7に係合させた組付き梁片13を縦突部5との間で抱え込む状態で、組付き梁片13の外側面に当接するので、両組付き梁片13の外側への変形変位を阻止するので、嵌合突片16の嵌合穴部9への嵌合による、壺本体1の係合組付き部分に対する把手11の係合組付き部分の係合組付きの弱化防止作用を、強力に補強することになる。

【0027】また、壺本体1の係合溝7に突き当たり端8を設けることにより、把手11の係合突片15の上端がこの突き当たり端8に突き当たって、壺本体1に対する把手11の組付きの上方へのズレ発生を阻止するので、嵌合突片16の嵌合穴部9への嵌合による、壺本体1の係合組付き部分に対する把手11の係合組付き部分

の係合組付きの弱化防止作用を、強力に補強することになる。

【0028】

【発明の効果】本発明は、上記した構成となっているので、以下に示す効果を奏する。壺本体の係合溝に対する把手の係合突片の係合により、壺本体に対する把手の係合組付きを達成すると共に、壺本体の嵌合穴部に対する把手の嵌合突片の嵌合により、係合溝と係合突片との係合を安定的に維持するので、壺本体に対する把手の組付きを安定したものとし、もって把手を持つての壺体の取扱いが極めて安全に達成できる。

【0029】把手の嵌合突片の壺本体の嵌合穴部に対する嵌合により、壺本体の係合組付き部分の把手の係合組付き部分に対する係合組付きを弱化させる方向への撓み変形による変位、および把手の両組付き梁片の係合組付きを弱化させる方向への撓み変形による変位を、強力にかつ確実に防止し、これにより壺本体に対する把手の強力な係合組付きを安定的に維持し、もって壺本体に対する把手の強力な係合組付きを長期間にわたって強固にかつ確実に維持する。

【0030】把手の嵌合突片は、単に組付き梁片の先端面に突片を突設しただけの構成であるので、その構造が極めて簡単であり、もって実施が容易である。

【0031】把手の係合組付き部分をインサート材とした場合には、壺本体の2軸延伸ブロー成形と同時に壺本体に対する把手の組付きが達成されるので、別体成形物である壺本体と把手との係合組付けのために、壺本体の係合組付き部分に座屈変形等の剛的な永久変形とか不正変形の発生する恐れが全くなく、もって壺本体に対する把手の安全で良好な係合組付けを達成できる。

【0032】把手をインサート材としての壺本体の2軸延伸ブロー成形は、既存の壺本体成形用の2軸延伸ブロー成形装置にわずかな加工を施すことにより実施でき、もって実施のために経費が大幅に増加するのを防止できる。

【0033】壺本体の係合組付き部分は、把手の係合組付き部分を成形型面の一部として成形されるので、壺本体の係合組付き部分と把手の係合組付き部分とを、略隙間なく組付けることができると共に、壺本体の係合組付き部分を係合力の強い構造とすることができ、もって壺本体に対する把手の係合組付きを強力に安定したものとすることができる。

【図面の簡単な説明】

【図1】本発明の一実施例を示す、把手を半縦断した壺体の全体側面図。

【図2】図1に示した実施例の、把手の左半分を切除した壺体の全体背面図。

【図3】図1中、A-A線に沿って切断矢視した拡大断面図。

【図4】図1に示した実施例の把手の全体背面図。

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【図5】図4に示した把手の全体側面図。

【図6】図4に示した把手の全体縦断側面図。

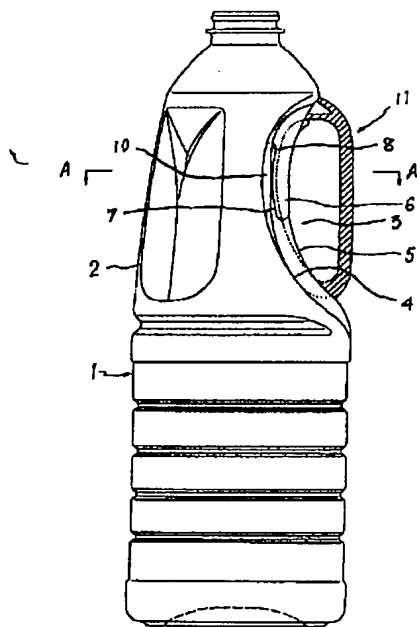
【符号の説明】

- 1 ; 壺本体
2 ; 胴部
3 ; 凹部
4 ; 凹部底面
5 ; 縦突部
6 ; 膨出片
7 ; 係合溝
8 ; 係合突片

8

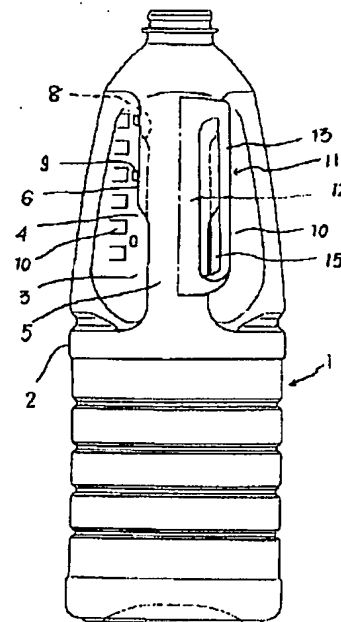
- 8 ; 突き当たり端
9 ; 嵌合穴部
10 ; 支え突部
11 ; 把手
12 ; 把手板
13 ; 組付き梁片
14 ; 先端面
15 ; 係合突片
16 ; 嵌合突片
10 17 ; 連結板

【図1】



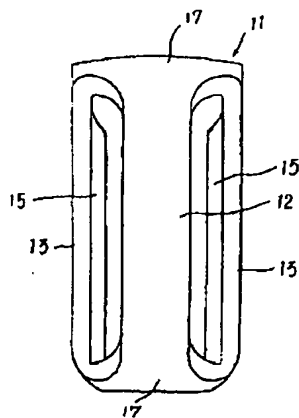
- 1 ; 壺本体 2 ; 胴部 3 ; 凹部 4 ; 凹部底面
5 ; 縦突部 6 ; 膨出片 7 ; 係合溝 8 ; 突き当たり端
9 ; 嵌合穴部 10 ; 支え突部 11 ; 把手

【図2】

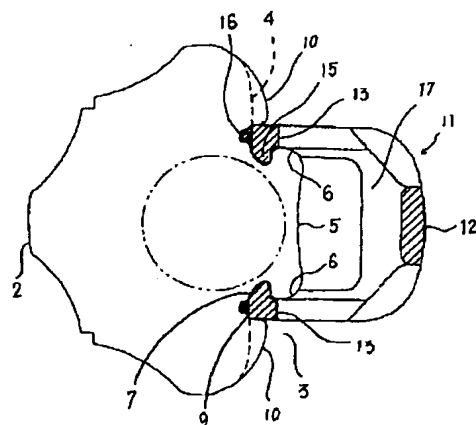


- 12 ; 把手板 13 ; 組付き梁片 14 ; 先端面
15 ; 係合突片 16 ; 嵌合突片 17 ; 連結板

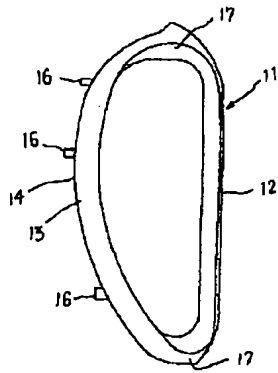
【図4】



【図3】



【図5】



【図6】

